

IN THE CLAIMS:

1. (Canceled)
2. (Previously presented) The method of claim 6, wherein detecting the magnetic field comprises detecting a high magnetic field having a magnetic field strength above a predetermined threshold.
3. (Previously presented) The method of claim 2, wherein detecting the magnetic field comprises detecting the high magnetic field using a Hall Effect sensor in operative communication with a cardiac activity sensing circuit of the implantable medical device.
4. (Previously presented) The method of claim 6, further comprising opening a case switch for the implantable medical device in response to the MRI interference signal.
5. (Previously presented) The method of claim 4, further comprising electrically isolating one or more leads from the implantable medical device.
6. (currently amended) A method of sensing cardiac activity in an implantable medical device in the presence of magnetic resonance imaging interference (MRI) but not in the presence of a relatively low-energy electromagnetic interference (EMI) that does not exceed a predetermined threshold of about 0.17 Tesla, comprising:
 - detecting a magnetic field having characteristics consistent with an operating MRI scanner and providing an MRI interference signal related to the detected MRI scanner;
 - and
 - in response to receipt of the MRI interference signal, switching from a first cardiac activity sensing mode that is relatively more affected by the MRI interference signal to a second cardiac activity sensing mode this is relatively less affected by the MRI interference signal; and

in the absence of receipt of the MRI interference signal, preventing switching
from the first cardiac sensing mode to the second cardiac sensing mode,

wherein the second cardiac activity sensing mode utilizes at least one of: a
can-based accelerometer, a pressure sensor on a lead, an accelerometer on
a lead, an accelerometer coupled to a connector block, a blood flow sensor, a
heart motion sensor based on time-of-flight, a temperature sensor, an
impedance-based sensor, an oxygen sensor.

7. (Canceled)

8. (previously presented) The device of claim 13, wherein the means for detecting
is capable of detecting the magnetic field by detecting a high magnetic field having a
magnetic field strength above a predetermined threshold other than about 0.17 Tesla.

9. (previously presented) The device of claim 8, wherein the predetermined
threshold is about 0.20 Tesla.

10. (Previously presented) The device of claim 8, wherein the means for detecting is
capable of detecting the magnetic field by detecting the high magnetic field using a Hall
Effect sensor in communication with the implantable medical device.

11. (Previously presented) The device of claim 10, further comprising means for
opening a case switch for the implantable medical device in response to receipt of the
MRI interference signal.

12. (Previously presented) The device of claim 11, further comprising means for
electrically separating one or more leads for the implantable medical device from a
portion of a housing for the implantable medical device in response to receipt of the
MRI interference signal.

13. (currently amended) A device adapted to perform a cardiac sensing-mode switch so to sense cardiac activity in the presence of magnetic resonance imaging (MRI) interference that exceeds a threshold of about 0.20 Tesla but not to perform said mode switch in the presence of electromagnetic interference (EMI) that does not exceed a threshold of about 0.20 Tesla, comprising:

means for detecting a magnetic field consistent with the characteristics of an MRI scanning device and providing an MRI interference signal related to the detection of the magnetic field;

and

switching means coupled to the means for detecting, for switching from a first cardiac activity sensing mode that is relatively more affected by the MRI interference signal to a second cardiac activity sensing mode that is relatively less affected by the magnetic field in response to receipt of the MRI interference signal, wherein in the event that a ~~typical~~-EMI field strength of below about 0.20 Tesla is detected by the means for detecting then no switching of the first cardiac activity sensing mode occurs;

wherein the second cardiac activity sensing mode employs at least one of: a can-based accelerometer, a pressure sensor on a lead, an accelerometer on a lead, an accelerometer coupled to a connector block, a flow sensor, a heart motion sensor based on time-of-flight, a temperature sensor, an impedance-based sensor, an oxygen sensor.

14. (Canceled)

15. (previously presented) The device of claim 19, wherein the means for detecting the magnetic field comprises means for detecting a high magnetic field having a magnetic field strength above a predetermined threshold wherein said threshold does not include typical electromagnetic interference field strengths but affirmatively includes field strengths correlating to a magnetic resonance imaging modality.

16. (Previously presented) The device of claim 15, wherein the means for detecting the magnetic field comprises means for detecting the high magnetic field using a Hall Effect sensor disposed in the implantable medical device.

17. (Previously presented) The device of claim 19, wherein the device is an implantable medical device, and wherein the means for switching further comprises means for opening a case switch for the implantable medical device in response to receipt of the magnetic field.

18. (Previously presented) The device of claim 17, wherein the implantable medical device includes at least one lead and a can, and wherein the means for switching further comprises means for opening the case switch for the implantable medical device and means for electrically separating the at least one lead from the can in response to the detection of the magnetic field.

19. (currently amended) A device for sensing cardiac activity and perform a cardiac sensing-mode switch in the presence of an interference signal attributable to a magnetic resonance imaging (MRI) apparatus wherein said signal exceeds a threshold of about 0.17 Tesla but not to perform said mode switch in the presence of electromagnetic interference (EMI) having a signal that does not exceed a threshold of about 0.17 Tesla, comprising:

means for detecting a magnetic field consistent with an MRI scanning system;
and

means for switching from a first cardiac activity sensing mode that is relatively more affected by the magnetic field to a second cardiac activity sensing mode that is relatively less affected by the magnetic field, wherein in the event that a typical EMI field strength of lower than about 0.17 Tesla is detected by the means for detecting no switching of the first cardiac activity sensing mode occurs and wherein switching from the first cardiac activity sensing mode to the second cardiac activity sensing mode comprises operatively coupling to a

one of the following cardiac activity sensing circuitry disposed within said implantable medical device: a can-based accelerometer, a pressure sensor on a lead, an accelerometer on a lead, an accelerometer disposed on a connector block, a flow sensor, a heart motion sensor based on time-of-flight, a temperature sensor, an impedance-based sensor and an oxygen sensor in the second sensing mode.

20. (Previously presented) A method according to claim 6, wherein detecting the magnetic field comprises detecting a high magnetic field having a magnetic field strength of about 0.2 Tesla (2000 Gauss) to about 10 Tesla (100,000 Gauss).

21. (Previously presented) A method according to claim 6, wherein detecting the magnetic field comprises detecting a high magnetic field having one of: a static gradient magnetic field, a variable gradient magnetic field with a frequency of about 5 KHz, a radio-frequency pulses of up about 10MHz to about 50 MHz, a variable magnetic field having a frequency of about 64 Hz.

22. (Previously presented) A device according to claim 13, wherein means for detecting the magnetic field comprises detecting a high magnetic field having a magnetic field strength of about 0.2 Tesla (2000 Gauss) to about 10 Tesla (100,000 Gauss).

23. (Previously presented) A device according to claim 13, wherein the means for detecting the magnetic field comprises detecting a high magnetic field having one of: a static gradient magnetic field, a variable gradient magnetic field with a frequency of about 5 KHz, a radio-frequency pulses of up about 10MHz to about 50 MHz, a variable magnetic field having a frequency of about 64 Hz.

24. (Previously presented) A device according to claim 19, wherein the means for detecting the magnetic field comprises detecting a high magnetic field having a

magnetic field strength of about 0.2 Tesla (2000 Gauss) to about 10 Tesla (100,000 Gauss).

25. (Previously presented) A device to claim 19, wherein the means for detecting the magnetic field comprises detecting a high magnetic field having one of: a static gradient magnetic field, a variable gradient magnetic field with a frequency of about 5 KHz, a radio-frequency pulses of up about 10MHz to about 50 MHz, a variable magnetic field having a frequency of about 64 Hz.